

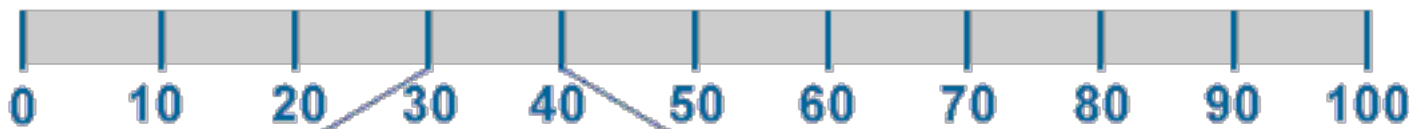
NAME: \_\_\_\_\_

ELLIS

## Simple Measurement: Length

**Length is the measure of an object or space from end to end.**

There are many different ways to measure length. Many of you have use tape measures to measure the length of your room, you bed and desk in order to rearrange your furniture. In class students will look at one way to measure the length of an object using two different types of measuring devices: a meter stick and a decimeter stick (both devices have a total length of 1 meter).



### Meter Stick (top):

To take an accurate length one must account for how many full meters, decimeters centimeters and millimeters there are and then estimate one digit past the millimeters mark.

### Decimeter stick (bottom):

To take an accurate length, one must account for how many full decimeters there are and then estimate one digit past the decimeter mark.



Here is an example of how to take a measurement with a digit of estimation using a meter stick.

First note that every one mark on the meter stick is representing an increase in length of 1 mm which means we will have to estimate one digit past millimeters to take an accurate measurement. We cannot see the full image but it is clear from the image on the left that the black folder does not measure one full meter.

Place the object on a flat surface and line the meter stick up with one end of the black folder. Account for the meters: 0m, the decimeters: 4dm, the centimeters: 1cm (past the 4 decimeters), the millimeters: 6mm (past the 1 centimeter) and then estimate one past the mm mark, the folder looks to end just under halfway between the 6 and 7 mm mark so we would estimate 0.4mm giving us a final measurement of 0.4164 meters. The final 4 in this measurement is our digit of estimation.

NAME: \_\_\_\_\_

ELLIS

At the following stations take an accurate measurement of the object provided. Be sure to include units and the digit of estimation, to assure that you have included the digit of estimation underline it so that it is clearly identified.

Station 1:

Physical Textbook using meter stick

Length: \_\_\_\_\_

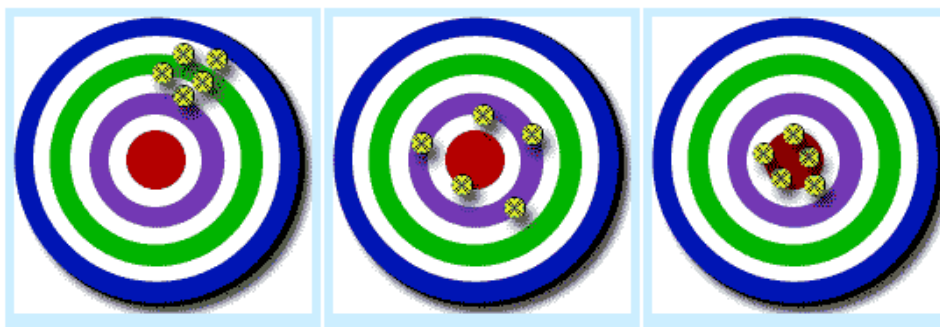
Station 2:

Lab Bench using decimeter stick

Length: \_\_\_\_\_

Brainstorm with your lab group which device is able to provide us with a more precise measurement.

Which device is able to provide a more accurate measurement and why?



A

B

C

Looking at the picture to the left there are three targets each have been shot with darts. Discuss with your lab group the terms accuracy and precision. After discussion match the correct dart board with the correct terms.

1. Accurate \_\_\_\_\_
2. Accurate & precise \_\_\_\_\_
3. Precise \_\_\_\_\_